

IN THE SPECIFICATION

Please replace paragraph [0024] at page 7 with the following rewritten paragraph:

[0024]

The biodegradable wax composition of the present invention preferably has a melt flow rate (hereinafter abbreviated as MFR) of 0.1 to 1000 g/10 min, more preferably 0.5 to 100 g/10 min, even more preferably 1 to 30 g/10 min, at 125°C under a load of ~~[[1.2 kgf]]~~ 1.2 kgf(11.76N). In other words, the biodegradable wax composition of the present invention exhibits melt flow characteristics suitable for melt molding using an extruder. Accordingly, the biodegradable wax composition of the invention can easily be molded into film by T-die extrusion or blown-film extrusion.

Please replace paragraph [0026] at page 8 with the following rewritten paragraph:

[0026]

The polymer to be used includes non-crystalline (amorphous) polymers and crystalline polymers, such as unvulcanized rubber and the aforementioned biodegradable aliphatic polyester resins, aliphatic polyester-aromatic polyester copolymer resins, and aliphatic polycarbonate resins. In order to finely disperse the polymer, the crystalline polymer is preferably one melting at a desired mixing temperature, which is ~~equal to or lower~~ lower than the melting completion temperature of the wax; and the amorphous polymer is preferably one whose glass transition temperature is not higher than a desired mixing temperature, which is ~~equal to or lower~~ lower than the melting completion temperature of the wax. Preferred of them are those which are amorphous and have compatibility with the wax at or above the melting point of the wax. Polyisoprene and natural rubber are especially preferred.

Please replace paragraph [0029] at page 9 with the following rewritten paragraph:

[0029]

The present inventors have ascertained that proper control of the molecular weight of polyisoprene or natural rubber is advantageous for obtaining the wax composition of the present invention which exhibits melt flow characteristics suitable for melt molding. Taking polyisoprene, for instance, use of polyisoprene having a weight average molecular weight controlled above 200,000, preferably above ~~[[400,00]]~~ 400,000, more preferably above 700,000, makes it easy to provide the wax composition with melt flow characteristics fit for melt molding. While there is no particular upper limit of the weight average molecular weight from the viewpoint of increasing the melt viscosity, the upper limit preferred for ease in preparing the wax composition would be 4,000,000, more preferably 2,000,000. The weight average molecular weight is measured, for example, as follows. A wax composition is dissolved in chloroform, and the insoluble wax is removed by filtration. The resultant filtrate is analyzed by GPC. The weight average molecular weight of the polymer is obtained from the results and a calibration curve prepared using standard polystyrene samples with known molecular weights.

Please replace paragraph [0079] beginning at page 25 with the following rewritten paragraph:

[0079]

EXAMPLE 1-1

Microcrystalline wax (Hi-Mic-1070, available from Nippon Seiro Co., Ltd.; melting completion temperature: 86°C; main peak temperature: 44°C) was freeze-crushed in a crusher into 10 mm or smaller particles. Isoprene rubber (Nipol-IR2200, available from Zeon Corp.) was cut into pieces of size ready to put in a kneader.

A pressure kneader (DS.DX75, supplied by Moriyama Manufacturing Co., Ltd.) was used. Into the mixing chamber of the pressure kneader was put 41.5 kg of the isoprene rubber. Then, 12.5 kg of the microcrystalline wax was added thereto in 10 divided portions, each portion falling within a range of 2% to 6% of the whole amount of the isoprene rubber. Each time a portion of the wax was added, the system was kneaded with no pressure application for about 0.5 minutes and then under pressure for 1.5 or 2 minutes. During the kneading, cooling water at about 15°C was circulated around the mixing chamber and the rotor, and all the heaters were off.

The resulting masterbatch looked white with air bubbles and was proved to have a uniform disperse state. The masterbatch was melted in a drier at 110°C in a nitrogen stream and again observed to examine the disperse state of the components. The presence of non-dispersed isoprene rubber was not recognized.

In the second kneading substep, 26.0 kg of the resulting masterbatch was put in a mixing chamber of a pressure kneader of Moriyama Mfg. Co., Ltd., and 54 kg of the microcrystalline wax was added thereto in 11 divided portions each ranging from 6% to 30% ~~of the total amount of the isoprene rubber~~ the total amount of the masterbatch. Each time a portion of the wax was added, the system was kneaded with no pressure applied for about 0.5 minutes and then under pressure for 1.5 or 2 minutes. During the kneading, cooling water at about 15°C was circulated around the mixing chamber and the rotor, and all the heaters were off.

The resulting wax composition was white with entrapped air bubbles. It was confirmed that each component was dispersed uniformly. The resulting composition was deaerated in a drier at 110°C in a nitrogen stream under reduced pressure of ~~[[−500 mgHg]]~~ −500 mmHg(−66.6KPa), and the disperse state in the molten composition was again

examined. As a result, the composition was transparent and uniform, and the presence of non-dispersed isoprene rubber was not recognized.

Fifty grams of the resulting wax composition and 2.6 g of anhydrous silica particles (AEROSIL 200, available from Nippon Aerosil Co., Ltd.; average particle size: 12 μm) as a filler were fed into the mixing chamber of Laboplastomill 30C150 (from Toyo Seiki Seisakusho) and kneaded at 30 rpm for 10 minutes with all the heaters off to obtain a filler-loaded wax composition.

Please replace paragraph [0088] at page 28 with the following rewritten paragraph:

[0088]

COMPARATIVE EXAMPLE 2-1

The filler-free wax composition of ~~Example 1~~ Example 2-1 was kneaded alone in Laboplastomill to obtain a filler-free wax composition having undergone the same kneading history as in Examples 2-1 to 2-5, which was processed in the same manner as in the foregoing Examples to obtain a three-layered film.

Please replace paragraph [0092] at page 31 with the following rewritten paragraph:

[0092]

The following test was carried out in which the kneading conditions in the preparation of a wax/polymer composition were varied. It is particularly important in the production of the wax composition of the present invention how to accomplish a uniformly mixed state in the step of kneading to obtain a wax/polymer composition prior to the step of kneading a filler.

In Example 3-1 and Comparative Examples 3-1 and 3-2 a wax composition was prepared using a 75-liter pressure kneader. The uniformity of the disperse system was

evaluated as follows. The resulting composition was deaerated by heating to or above the melting point of the wax and spread to a thickness of about 1 mm to see if any granular substance remained with the naked eye. When the presence of a granular substance was recognized, the substance was judged to be non-dispersed. To confirm the physical properties of the composition, the MFR was measured with a melt flow indexer at 125°C under a ~~[[1.25 kg]]~~ 1.2 kgf(11.76N) load.

Please replace paragraph [0096] at page 32 with the following rewritten paragraph:

[0096]

The resulting masterbatch looked white with entrapped air bubbles and was confirmed to have the components uniformly dispersed. The masterbatch was melted in a drier at 110°C in a nitrogen stream and again observed to examine the disperse state of the components. The presence of non-dispersed ~~natural-rubber~~ isoprene was not recognized.

Please replace paragraph [0098] beginning at page 32 with the following rewritten paragraph:

[0098]

In the mixing chamber of a pressure kneader (DS.DX75, supplied by Moriyama Manufacturing Co., Ltd.) was put 26.0 kg (130 parts by weight) of the masterbatch and kneaded at 30 rpm for 5 minutes. Then, 46.5 kg (205 parts by weight) of the microcrystalline wax (Hi-Mic-1070 from Nippon Seiro Co., Ltd.) was added thereto in 11 divided portions, each portion falling within a range of 6% to 30% based on ~~the total amount of the isoprene rubber~~ the total amount of the masterbatch. Each time a portion of the wax was added, the system was kneaded with no pressure application for about 0.5 minutes and then under pressure for 1 or 2 minutes or 5 minutes. During the kneading, cooling water at about 15°C

was circulated around the mixing chamber and the rotor, and all the heaters were off. The temperature of the composition after the end of the kneading was 60° to 70°C as measured with a contact thermometer, and the $\Delta H'/\Delta H$ at that time was 0.70 to 0.85.

Please replace paragraph [0099] at page 33 with the following rewritten paragraph:

[0099]

The resulting wax composition looked white with air bubbles and was confirmed to have the components uniformly dispersed therein. The composition was deaerated in a drier at 110°C in a nitrogen stream at ~~[[−500 mmHg]]~~ −500 mmHg(−66.6KPa) and again observed to examine the disperse state in the molten state. The composition was transparent and uniform, and the presence of non-dispersed ~~natural rubber~~ isoprene rubber was not recognized. To confirm the physical properties of the kneaded product, MFR was measured with a melt flow indexer at 125°C under ~~[[1.25 kg]]~~ 1.2 kgf(11.76N) load. As a result, the MFR was about 37 g/10 min.

Please replace paragraph [0102] at page 34 with the following rewritten paragraph:

[0102]

The resulting composition was semi-transparent with entrapped air bubbles, and the presence of non-dispersed isoprene rubber was confirmed with the naked eye. The composition was deaerated in a drier at 110°C in a nitrogen stream at ~~[[−500 mmHg]]~~ −500 mmHg (−66.6KPa) and again observed to examine the disperse state of the components in the molten state. The presence of non-dispersed isoprene rubber was recognized with the naked eye. The MFR measurement was not made in view of such a large quantity of the non-dispersed isoprene rubber.

Please replace paragraph [0105] at page 35 with the following rewritten paragraph:

[0105]

The resulting composition was semi-transparent with entrapped air bubbles, and the presence of non-dispersed isoprene rubber was confirmed with the naked eye. The composition was deaerated in a drier at 110°C in a nitrogen stream at ~~[[−500 mmHg]]~~ 500 mmHg(−66.6 KPa) and again observed to examine the disperse state of the components in the molten state. The presence of non-dispersed isoprene rubber was recognized with the naked eye. To confirm the physical properties of the kneaded product, the kneaded product was freed of the non-dispersed isoprene rubber, and its MFR was measured with a melt flow indexer at 125°C under ~~[[1.25 kg]]~~ 1.2 kgf (11.76N) load. As a result, the MFR was about 104 g/10 min. It was thus revealed that the resulting composition had an increased MFR value as compared with the composition of Example 3-1 in which a masterbatch was once prepared.